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Taking Sides.

Marriage Networks and Dravidian Kinship in Lowland South America

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Dual organization is a unifying concept underlying seemingly dissimilar alliance structures. We explore this idea with reference to lowland South America where dual organization is common. We have chosen, however, to place primary emphasis on the patterning of actual marriage networks. Our aim is to identify the invariant properties of such networks and, in the light of these findings, to reconsider the relationship between marriage network structure and other, categorical or jural features of social organization: kinship terminologies, descent principles, marriage rules, etc. As a means to this end, we develop the concept of matrimonial "sidedness". In doing so, we derive new results concerning dual organization and a new understanding of dravidianate systems.

This analysis is based, on the one hand, on published genealogical data concerning the Makuna (Arhem 1981), the Pakaa-Nova (Vilaça 1992), the Yanomamö (Chagnon 1974), the Trio (Rivière 1969), the Parakana (Fausto 1990), the Waimiri-Artroari (Ferreira da Silva 1993), the Guahibo (Metzger 1968), the Shavante (Maybury-Lewis 1967) and the Suyá (Seeger 1981), and on the other hand, on Hornborg's (1988) comparative study of 48 lowland South American societies.

Classificatory Rules and the Need for Alternative Models

Following Dumont (1953), Trautmann (1981, 1992) defines Dravidian kinship as a structural type (hereafter "dravidianate"), as a set of terminological distinctions implying a rule of bilateral cross-cousin marriage. At the same time, he is quick to point out that as a cultural type relating to a particular set of concrete cases, this system evinces substantial variation. In some instances, marriage with certain cross-cousins (close, matrilineal, patrilineal) may be prohibited or less favored. Thus, as Trautman (1981:60-2) maintains, while marriages with close cross-kin (i.e. MBD, FZD, ZD) are compatible with Dravidian terminology -- the available data regarding close cross-kin marriage on the Indian sub-continent indicate a range from 4% to 54% with an average of around 22% (*ibid* p.218, see also Good, this volume) --, the marriage rule implied by Dravidian terminology is essentially a *classificatory* one. Indeed, marriages between first degree cross-cousins may be few and far between, and in most if not all cases, a sizable proportion of marriages take place between persons who are not consanguines at all.

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In lowland South America, where such two-line terminologies abound, the classificatory dimension of dravidianate kinship is readily apparent. Here also, unions with certain cross-cousins may be excluded or discouraged, and close cross-kin marriages often represent a small proportion of alliances. Thus, in our sample of nine Amazonian societies with dravidianate characteristics, the percentage of blood marriages ranges from less than 1% to 37% with an average of 11%, whereas the percentage of close cross-kin marriages (MBD, FZD, ZD, FZ) ranges from 0% to 18% with an average of 5% (cf. *Table 3* below).

The classificatory nature of the dravidianate bilateral cross-cousin marriage rule, and correlatively, the attested variability regarding the application of this rule, has, for us, a simple but far-reaching implication, namely, that an "elementary" type model of dravidianate kinship, that is, one implicitly founded upon an analytical reduction to a prototypical configuration of marriage between close kin, is fundamentally misleading. It would indeed seem more appropriate to try to grasp the functioning of dravidianate systems by means of more complex types of models, specifically, ones that incorporate a degree of indeterminacy commensurate with the genealogical uncertainty inherent in the partially indefinite marriage "rule" these systems are held to suppose. It is this type of model that we attempt to develop in the pages that follow.

In pursuing this objective, our approach to the problem of dravidianate kinship contrasts sharply with the structuralist perspective that continues to dominate current alliance theory. This perspective invites us to consider the (positive or negative) precepts governing various sorts of marriage between close relatives as models which, if applied repeatedly, result in different types of properties of matrimonial networks. For the reasons already stated, we do not begin from such abstracted or reduced structures. We thereby hope to avoid some of the common analytical pitfalls that follow from doing so, such as a reliance upon static, ahistorical descriptions, the distinction between "mechanical" and "statistical" representations (Lévi-Strauss 1958:311), or what may well turn out to be a largely inappropriate emphasis on consanguineal unions. Instead, our starting point is the marriage network itself, which we attempt to grasp as a structured whole. In doing so, we seek to provide a representation of the alliance system that is at once formal and statistical in nature, amenable to analysis both in terms of structure and in terms of historical change. Here, marriage practice is envisaged neither as informed by some ideal synchronic scheme (a "mechanical" model), nor as a mere collection of individual behaviours (a "statistical" model), but as a dynamic coordination of such behaviours: a network model. Moreover, we see the recurrent features of this coordination as being rather more loosely related to preferential and/or classificatory precepts as is usually (and often tacitly) supposed. Indeed, the very idea of a network model argues against the notion that action is to be analysed in terms of preexisting normative or formal principles. Rather, it favors the idea of emergent characteristics arising from social interaction itself and governed by various feedback processes. Thus, in our view, a systematic account of real kinship connectivities constitutes a necessary first step in the development of more realistic, albeit more complex alliance models.

Matrimonial Sidedness in Amazonia

Our initial aim, then, is to identify dual organization as a property of the marriage network as a whole.¹ In order to do so, we look at the reticulum of intermarried sibling sets,

¹ Strictly speaking, we are concerned not with the network of all documented marriages for a given population, but with a subset of this network we call the *core*. This core network is comprised of those marriages having a sufficient degree of interconnectedness to enable one to speak meaningfully of network structure. Specifically, it includes those unions whose partners are connected to each other by one or more prior consanguineal ties

that is, the criss-crossing chains of brother-in-law and/or sister-in-law relationships within the (core) network. Only in the most restrictive case will such chains involve partners of the same generation only. Just a few marriages between people of adjacent generations are sufficient for a single ramifying sequence of interconnected siblings groups to encompass most of the network. Particularly interesting for our analysis are those cases in which such affinal chains also join up to form closed marriage cycles: the number of sibling-in-law linkages taking place before closure is highly significant.

In most of our sample populations, practically the entire complex of intermarried sibling sets can be represented by a bipartite graph, that is, these sibling sets can be either exhaustively or overwealmingly divided into two intermarrying super-sets.² This means that the marriage cycles they make up always close at an even number of affinal connections. In other words, marriages do not take place between co-affines (i.e. affines of affines), or between co-affines of co-affines, or between co-affines of co-affines of co-affines, etc. We designate this bipartite ordering of sibling-in-law links by the term *dividedness*.

The prevalence of dividedness is a clear indication that the marriage networks concerned are ordered according to some type of a dual principle. However, in the case of these Amazonian societies, a slightly different dynamic is involved: there is a clear tendency towards a bipartite ordering that is reiterated from one generation to the next along sexual lines, such that children of one or both sexes can be assigned to the same "exogamous" super-set as their same-sex parent. Thus, with very few exceptions, the marriage network data of these populations can be adequately represented as two super-sets of intermarrying patriline and/or matriline. We designate this bipartite, sex-linked alignment of marriage ties (*Figure 1*) by the term *sidedness*.

Figure 1
A schematic of sidedness organized in the female line (uxori-sidedness)

In this and the following figures, in the interests of representing marriage networks in the most expedient fashion, certain aspects of conventional notation have been reversed. Male and female individuals are indicated by solid and dotted lines respectively; marriages are indicated by points. Lines converging downwards to a same point correspond to spouses (plural marriages are indicated by several lines emanating from a same point), whereas lines radiating downwards from a same point correspond to sibling sets.³

Figure 2 shows the network of intra-community marriages for the Makuna of northwest Amazonia (Arhem 1981). The marriage graph is almost perfectly bipartite; it contains right

(consanguineous marriages), those unions whose partners are connected to each other by one or more prior affinal ties ("relinkages", in french *renchaînements*, cf. Jolas et al. [1970]), as well as, in the case of some networks, those unions that connect (sub-)cores to each other. In other words, the core is essentially equivalent to the set of all marriages connected to at least two other marriages also in the core. For the notion of "core" and other concepts as used here, cf. Houseman and White (1996), White and Houseman (n.d.).

² We draw upon Hage and Hararay's (1991) definition of the bipartite graph of marriage links between the members of different groups as the basic form of dual organization in alliance. Hage and Hararay's approach to bipartite marriage graphs however, suffers the defect of having to posit culturally defined groups between which relations of marriage or alliance are defined. Our contribution is to apply the concept of bipartite graphs directly to the primary network of kinship relations. Thus, the expression "super-set" is used here to indicate that the possibility of representing the marriage network by means of a bipartite graph, does not, in itself, imply the existence of such bipartitions as culturally recognized units.

³ This formalism derives from Bertin (1967) and Guilbaud (1970). Cf. White and Jorion (1992) for a discussion and Héran (1993) for a comparable system of notation.

and left sides organized in the male line (viri-sidedness). The Makuna exemplify a general principle that matrimonial sidedness necessarily decays at some external boundary. As Arhem has emphasized (*ibid* p.134-7), the dual division of the Makuna operates at the local level but cannot operate when pushed to intertribal marriages: persons assigned to opposing sides may have more geographically distant, non-Makuan affines in common. However, evidence of lack of consistency at the external boundary is irrelevant to the assessment of sidedness, as this boundary condition is a general one: side organization cannot contain the world of all marriages, but describes only how marriage operates within a circumscribable network. Few societies fail to intermarry with other groups, but outside marriages are unlikely to preserve bipartite arrangements at this more inclusive level. Sidedness, then, is an essentially local phenomenon, implying relative matrimonial closure.

Figure 2
Makuna viri-sidedness

Sidesness may be also internally bounded by progressive segmentation of the groups involved. This is illustrated by the genealogical data from Chagnon (1974) for the Yanamamö (Shamatari) village of Mishimishimaboweiteri (*Figure 3*).

Figure 3
Yanomamo viri-sidedness

When the network of consanguineal and affinal ties among couples in the village is analyzed into blocks of regular equivalence (White and Reitz 1982), four quasi-exogamous supersets of patriline emerge. The frequencies of intermarriage between these four blocks (A, B, C, D) are shown in Table 1a. In 1b these frequencies are doubly normalized as percentages where the row and column sums are all equal to 100%. This normalization is shown by Romney (1970) to provide comparable measures of endogamy versus exogamy across different societies. In the present case an endogamy coefficient of -.89 indicates a strong tendency towards exogamy (exogamy = +.89) among the four supersets of patriline. The supersets are paired, however, A intermarrying with B and C with D, forming two quasi-endogamous segments in the village with an inter-segment endogamy coefficient of .80. If (A+B) and (C+D) were to split off from each other and marriages between them were not counted, the exogamy rates for the side-like divisions they entail would be 96% and 92%, respectively (with an average of 95%). These rates of sidedness are remarkably high given the constant fissioning of Yanamamö groups: villages are continually being dissolved and reconstituted (e.g. every 6-7 years), and constituent groups separate into two quite frequently, perhaps at a generational time scale of 20 years (Chagnon 1974).

Table 1 Yanomamo intermarriage

A. Absolute numbers

	A	B	C	D	Totals
A	1	36	5	8	50
B	32	2	3	1	38
C	3	2	1	18	24
D	3	2	16	2	23
Totals	39	42	25	39	135

B. Double normalized percentages

A	1.43	74.05	10.45	14.07	100.0
B	78.99	7.12	10.85	3.04	100.0
C	10.15	9.76	4.96	75.13	100.0
D	9.43	9.07	73.78	7.76	100.0
Totals	100.0	100.0	100.0	100.0	100.0

average of diagonals = 5.32%

Romney endogamy coefficient = $.0532 - (1 - .0532) \approx -0.89$

Marriage data for the Pakaa-Nova, a Txapakuran-speaking group living on the Brazilian/Bolivian boarder (Vilaça 1992), the Parakana, a Tupi population of Brazil (Fausto 1990), the Carib Trio of Guinea (Rivière 1969), the Waimiri-Atroari, another Carib-speaking group of Northern Brazil (Ferreira da Silva 1993), the tropical forest dwelling Guahibo of Southern Venezuela (Metzger 1968), the Shavante, Central Gê-speakers of Central Brazil (Maybury-Lewis 1967), and the Suya, a Northern Gê population also of Central Brazil (Seeger 1981), provide further examples of amazonian viri-sided organization (*Figures 4, 5, 6, 7, 8, 9 and 10*).

Figure 4
Pakaa-nova viri-sidedness

Figure 5
Parakana viri-sidedness

Figure 6
Trio viri-sidedness

Figure 7
Waimiri-Atruari viri-sidedness

Figure 8
Guahibo viri-sidedness

Not all instances of sidedness are the same, this being of course related to the local material and social conditions in which alliances are pursued. Certain differences, such as the contrast between the several deep lineage-like units that compose Makuna sides (*Figure 2*) and the numerous shallow side components among the Trio (*Figure 6*), can be seen in the graphic representations themselves. Others, concerning for example the proportion of consanguinial unions, of oblique marriages, or the number and type of sibling-in-law cycles, are not as apparent. *Table 3* provides an overview of several of these differences for the cases already mentioned. For comparative purposes, we have also included the marriage network of the Singhalese village of Pul Eliya (Leach 1971), a Dravidian case having both sidedness and dividedness (cf. White and Houseman 1995), that of the polynesian island community of Anuta (Feinberg 1982) having dividedness but not sidedness -- in contrast to the Parakana marriage network which is sided but not divided --, as well as that of the Tuareg Udaalen of Burkina Faso (Guinard 1984) which has neither sidedness nor dividedness.⁴

⁴ As the Anuta and Parakana cases suggest, sidedness, a vertically oriented bipartition, and dividedness, a horizontally oriented one, while often appearing together, may vary independantly of each other. This seemingly

Table 2

	N° marriages in (core) network	% blood marriages	% close cross- kin marriages	N° marriage cycles (% even cycles = dividedness)	Sidedness coefficient
Makuna	105	23%	14%	14 (100%)	.99 viri .82 uxori
Yanomamo	159	1%	0.6%	22 (86%)	.88 viri .73 uxori
Pakaa-nova	120	0.8%	0%	8 (100%)	.86 viri .81 uxori
Parakana	183	37%	18%	79 (78%)	.86 viri .62 uxori
Trio	389	4%	2%	17 (100%)	.87 viri .83 uxori
Waimiri-Atroati	108	7%	0.9%	21 (100%)	.83 viri .70 uxori
Guahibo	70	7%	3%	3 (100%)	.94 viri .86 uxori
Shavante	149	13%	1%	18 (94%)	.95 viri .72 uxori
Suya	23	4%	0%	3 (100%)	.93 viri .93 uxori
Pul Eliya	104	16%	9%	3 (100%)	.85 viri .87 uxori
Anuta	152	56%	0%	16 (100%)	.73 viri .75 uxori
Tuareg Udalen	282	44%	5%	63 (60%)	.62 viri .63 uxori

Notes.

Sidedness coefficients are based on the number g of son links and f of daughter links, each of which may be located consistently (+) or inconsistently (-) with a sided pattern; thus there are four base counts: g⁺, g⁻, f⁺ and f⁻. These coefficients are in proportional reduction of variance form: $SC = ((g^{+}+f^{+}) - (g^{-}+f^{-})) / (g^{+}+f^{+}+g^{-}+f^{-})$.

Shavante statistics concern San Marcos, the largest Shavante village for which data is available (Maybury-Lewis 1967). Statistics for the village of Sao Domingos (124 marriages in the [core] network) are fairly similar: viri-sidedness = .95, uxori-sidedness = .79. Putative sibling ties have been counted as true sibling links, such that the percentage of blood marriages for the Shavante may be overestimated.

Biological fatherhood, as reported by the ethnographer, has been systematically accounted for in the case of the Waimiri-Atroari.

It is beyond the scope of this paper to try to account for the various divergences that distinguish these populations from each other. Rather, we wish to emphasize the recurrent pattern of (viri-) sidedness that constitutes the larger statistical and structural context for such local variations: a sex-linked bipartition of the marriage network. More data is needed in

paradoxical state of affairs -- the presence of sidedness without dividedness -- appears to be linked among the Parakana to the prevalence of oblique marriages with close cross-kin : 50% of blood marriages, that is, 18% of the total number of marriages in the (core) network, are with ZD, FBDD, FZSD or MFBD; unions with ZD alone represent 30% of blood marriages and 11% of the total number of marriages.

order to evaluate the distribution of matrimonial sidedness in lowland South America. However, the available evidence suggests that it is fairly extensive. In addition to the 9 societies among whom we have verified sidedness empirically, there are at least 10 further cases in Hornborg's (1988) survey for whom the available marriage data and/or the unambiguous presence of bipartite marriage arrangements, suggest that sidedness is highly probable: Nambikwara, Mundurucu, Parintintin/Tupi-Cawahib, Amahuacu, Mayoruna, Sharanahua, Cashinahua, Sanuma, Cuiva and Karaja.⁵ On the other hand, geneological, normative and/or classificatory material running contrary to a sided marriage pattern, makes sidedness seem unlikely in at least 7 cases : Witito, Bora/Mirana, Txicao, Kadiweu, Yanomam, Mechinacu as well as Kandoshi (see Taylor, this volume). In the remaining 27 cases of Hornborg's sample, sidedness is possible, but there is insufficient data to judge, although geneological, normative and/or classificatory elements suggest that sidedness may be likely for 8 of them: Bororo, Kalapalo, Kuikuru, Barasana, Bara, Achuar/Shuar, Piaroa, and Warao. According to our estimate then, at least 36% of the 53 amazonian societies considered (48 in Hornborg [1988] plus Pakaa-nova, Parakana, Waimiri-Atroati, Guahibo and Kandoshi), may be presumed to be sided, the overall frequency of sidedness for unambiguous cases ("verified" or "highly probable" vs. "unlikely") being 73%.

As these figures show, sidedness is a widespread feature of South American lowland societies. What is the relationship between side organization and dravidianate terminology?

Sidedness and Dravidian Terminology

The particular characteristics of sidedness in any given community are, of course, conditioned by considerations pertaining to group membership: residence, inheritance, descent, etc. Nevertheless, side organization itself is not reducible to such considerations. Thus for example, while viri-sidedness may be reenforced by agnatic descent, as for example in the case of the Makuna or the Shavante, its presence among these populations, as among the other, kindred-based societies in our sample, can not be accounted for in these terms. Inversely, sidedness does not, in itself, imply any particular type of distribution of individuals into socially identified units. In short, sidedness, like dividedness, is an *alliance* structure.

However, sidedness is a behavioural feature of alliance, not a classificatory one. It does not imply any global, "prescriptive" matrimonial scheme. Thus, while the presence of exogamous moiety organization (e.g. among the Shavante) may act to accentuate sidedness, moieties and sides are not the same. Specifically, sidedness is not a synchronic structure, but a diachronic statistical regularity arising from the coordinate aggregation of actual marriage ties, aggregation that invariably contains a number of inconsistencies. Indeed, as our sample cases show (*Figures 2-10*), sidedness is rarely (if ever) realized in an absolute or perfect fashion: it is an approximate rather than an inherent ordering. The sides to which individuals and/or descent lines will be assigned may vary according to the point of view adopted, that is, analytically speaking, according to which particular descent line is taken as the initial

⁵ Such inferences remain, of course, tentative. For the Nambikuara cf. Hornborg (1988:107) citing Lévi-Strauss (1948:77-9); for the Mundurucu cf. Hornborg (1988:152) citing Murphy (1956:418-430) and Murphy and Muphy (1974:72, 145-7); for the Parintintin cf. Hornborg (1988:154) citing Nimuendaju (1948:290) and Kracke (1984:99-100); for Pano-speaking groups cf. *infra* and Hornborg (1988:170-1), and specifically, the Amahuaca cf. Hornborg (1988:163) citing Dole (1979:22-9), the Mayoruna cf. Hornborg (1988:165) citing Fields and Merrifield (1980:26), the Sharanahua cf. Hornborg (1988:167) citing Suskind (1973:199-202) and Torralba (1981:39-40), and the Cashinahua cf. Hornborg (1988:) citing d'Ans (1975:28-9) and Kensinger (1977:235, 1984); for the Sanuma cf. Hornborg (1988:191) citing Ramos (1974:172) and Ramos and Albert (1977:76), for the Cuiva cf. Hornborg (1988:218) citing Arcand (1977:28-30); for the Karaja cf. Petecsh (1991:379) who reports 96% of marriages with cross-kin.

reference for determining the side membership of the remaining descent lines. This type of context-dependant variability does not apply in the case of moieties. In short, unlike moiety organisation, sidedness is a "local" structure. It is perhaps worth emphasizing that this partially indefinite quality of sidedness is not indicative of disorder, but is a correlative feature of its complexity: sidedness is best viewed not as a state or absolute condition defined by a specific (ideal) type of marriage, but as a process or relative condition underlying the integration of a diversity of (real) marriage choices into the orderly development of the network as a whole. Thus, as *Figures 2-10* illustrate, side organisation accomodates/generates a wide spectrum of actual marriage ties. By the same token, as attested by the heterogeneity of the populations among whom sidedness is found (see Hornborg [1988:222-6] for more details), it may be said to subsume a variety of categorical and/or normative systems, exogamous moiety organization among them.

As a property of the marriage network as a whole, sidedness is an emergent phenomena, not a rule-driven one: sidedness does not imply any specific underlying principle. Parallel affiliation -- i.e. same-sex transmission, reported for 28 of the 48 societies in Hornborg's sample, and according to him, "immanent in Dravidian kin terminologies" (1988:237) -- is logically consistant with sidedness, as is, for example, bilateral cross-cousin marriage. However, sidedness is no more governed by a "rule" of parallel affiliation (of marriage alignment) than it is regulated by a "rule" of bilateral cross-cousin marriage. At best, such "rules" represent alternative *partial* descriptions of sidedness. Their very incompleteness, relating to indeterminate aspects of sidedness itself, defines the limits of their explanatory role: the first "rule" ignores the crucial fact that sidedness (unlike moiety or descent group membership for example) is not a transmittable property of individuals but a ordering process characteristic of the network as such; the second "rule" passes over the genealogically unspecified (classificatory) character of the cross-kin it purports to prescribe.

As a statistical feature of the marriage network arising from the synergistic concatenation of particular marriage choices, sidedness is niether a systemcentric matrimonial scheme (such as moiety organization), nor an egocentric marriage model (such as a bilateral cross-cousin marriage rule), but something in between: what we may call a "multi-egocentric" (Taylor, this volume) or *multicentric* alliance structure. This analytically intermediate nature of sidedness is directly related to its relative ubiquity. Indeed, in our view, sidedness is an overdetermined aspect of the societies in which it is found. In other words, the reiteration of a sex-linked bipartite ordering of the marriage network from one generation to the next, derives from the convergeant influence of a variety of factors. Any number of two-line terminological schemes, various positive or negative marriage precepts favoring "crossed" categories, principles of parallel transmission involving names, statuses or objects, instances of ceremonial dualism, etc., all provide relational (and conceptual) constraints whose cummulative effect, when translated into action, works towards sidedness. (see also Hornborg 1988:288). Reciprocally, an inclination of the evolving field of kin and affinal ties in the direction of a sex-linked bipartition, tends to prompt the reiteration of such side-consistent classificatory and normative phenomena. One may thus suppose that sidedness, once in place, is more or less self-sustaining, persisting for example despite considerable changes in descent reckoning, residence or marriage preferences, terminological patterns, etc.⁶

Dravidianate terminology, we suggest, can be understood as an egocentric recoding of sidedness, that is, from the point of view of a participant in marriage alliances. Looking up to the senior generation, couples are already formed, either as one's own ancestors or collaterals, but classified as parallel or cross for sibling links. Hence the bifurcate (same-sex sibling) merging pattern ($F = FB \text{ } ^1 \text{ MB}$, $M = MZ \text{ } ^1 \text{ FZ}$) and its attendant 0 generation parallel/cross

⁶ For a further discussion of sidedness, cf. Houseman and White 1995.

distinctions. Looking down from one's own generation, couples are yet to be formed, and only one member of each potential couple is ordinarily one's descendent: ego may be a participant in making new marriages for siblings or descendants.

In this perspective, dravidianate terminology may be defined less as a thing in itself, than as a systematic expression of an ongoing positive relationship between, on the one hand, a certain behavioural regularity -- sidedness --, and on the other hand, a particular classificatory principle that we may call: *egocentric crossness*. The latter, it should be stressed, is not equivalent to Type-A ("Dravidian") crossness (Trautman and Barnes, this volume), but rather to those features that Type-A and Type-B ("Iroquois") crossness have in common: bifurcate merging, a crossness calculus proceeding from senior generations to junior ones and applied to limited number of generations, and a pattern in -1 generation terms whereby husband and wife apply the same relationship term, or set of terms, to their mutual children, whereas brother and sister call their respective children by another term, or set of terms. On one level, this definition is but an empirically grounded, less "mechanical" and more complex rephrasing of Dumont's and Trautman's original insight (contre Scheffler 1971) that the distinctiveness of Dravidian kinship lies in the supposed link between a set of linguistic categories and a certain type of marriage pattern (bilateral cross-cousin marriage). However, such a reformulation, precisely because it is at once more realistic and genealogically underspecified, can, we suggest, more easily account for both the observed variability of dravidianate systems (within a given community and from one society to another) and their changes through time.

For us, then, dravidianate kinship occupies the structural space defined by intersection of sidedness and egocentric crossness. Perhaps the easiest way to see how this may be so, is to follow the two (logical) paths leading out of dravidianate, as determined by the elimination of one or the other of these two requisite features. One path, that consists in maintaining sidedness but relinquishing egocentric crossness, leads to the exogamous moiety systems typical of so many Australian Aboriginal societies (e.g. almost all of the populations mentioned in Scheffler 1978). In such systems, egocentric crossness disappears in favor of a more sociocentric recoding of sidedness in which moiety membership is the determinate factor. Although a bifurcate pattern remains for +1 generation, as do attendant cross/parallel distinctions at zero-generation, the crossness calculus is applied to a theoretically unlimited number of generations, and -1 generation terms follow a quite different scheme: the husband and all his siblings apply one relationship term, or set of terms -- generally glossed as "man's child" -- to his offspring, while the wife and all of her siblings apply another term, or set of terms -- "woman's child" -- to these same offspring. Whereas the (egocentric crossness) pattern found in dravidianate marks a distinction between individuals' consanguinal and affinal kin (M and F vs. MB and FZ), the Australian (sociocentric crossness) pattern maps a distinction between "my group" (F, FZ, mCh) and "other group" (M, MB, wCh) (cf. Shapiro 1970:386; see also Viveiros de Castro, this volume)⁷

The other path out of dravidianate, in which, on the contrary, egocentric crossness is maintained but sidedness is abandoned, directs us to Iroquois-type systems. Here, the apparent absence of an overall structuring of the marriage network (e.g. Kronenfeld 1989, this volume) goes together with a simpler, one-generation-deep crossness calculus incompatible

⁷ It should be noted that the Kariera seem to be one of the few Australian cases whose terminology appears to correspond to an egocentric crossness pattern: "The Kariera relationship terminology is of the bifurcate merging sort, and several anthropologists, including Radcliffe-Brown (1913) and myself (Shapiro 1970), have taken it to be similar to the [sociocentric exogamous moiety] scheme just considered. A re-analysis by Goodenough (1970:131-42), however, indicates we are all wrong. In Kariera, as in English, husband and wife apply the same terms to their mutual offspring, while another set of terms is applied to these offspring by their parents opposite-sex siblings -- mother's brother and father's sister." (Shapiro 1979:48-50).

with side organization (cf. Trautmann 1981:86-7). Iroquois crossness may be said to be maximally societally inconsistent in the sense that in the Iroquois case, more than in the other terminological patterns we are concerned with here, "two relatives who are, respectively, cross and parallel, from ego's point of view, may be both cross or both parallel from the point of view of some other kinsman" (Kronenfeld 1989:93). Indeed, as Tjon Sie Fat (this volume) and Viveiros de Castro (this volume) have stressed, whereas Australian crossness classifications are wholly coordinate -- in Tjon Sie Fat's terms, Australian crossness is fully "associative" in that cross/parallel allocations are independent of the genealogical path taken --, dravidianate crossness is coordinate within generations alone, and Iroquois crossness is coordinate neither across generations nor within them. In Iroquois systems, in which unilineal descent is often present, and correlatively, in which matrilineal/patrilineal differences may be emphasized (Lounsbury 1964:198), we should expect any existing bilateral marriage alliance patterns to conform, as Viveiros de Castro suggests, to a "concentric" rather than "diametric" (side-compatible) scheme.

The structural space corresponding to dravidianate kinship thus opens onto Australian-type exogamous moiety systems on the one hand and to Iroquois "concentric" configurations on the other. Either situation, presumably in the minority in lowland South America, is sure to provide precious indications regarding possible historical paths leading out of or into dravidianate. However, within dravidianate itself, a great deal of variation remains. Both sidedness and egocentric crossness can be realized in a variety of ways, such that the association of these two features encompasses a diversity of particular social configurations. The latter may be thought of as so many arcs along possible "trajectories" (Hornborg 1988) within this structural space. To get a better idea of both the unity of dravidianate and the range of systems it includes, let us look briefly at a few of these trajectories.

Deviations and permutations

A first example is that of panoan-speaking groups of southeastern Peru. Among these populations, names and decorative motifs are transmitted along agnatic lines from FF(B) to (B)SS for men and from FFZ/MM to (B)DD for women, thereby defining a system of alternative generation namesake groups. Here, the dual organisation implicit in a two-line ordering is horizontally bisected to form an overall "four-section" pattern similar to that of the Kariera of Australia.⁸ In at least one, and perhaps two cases (the Cashinahua [Hornborg 1988:168 citing Kensinger 1977:235; d'Ans 1975:28-9] and the Mayoruna [Hornborg 1988:164, citing Fields and Merrifield 1980:5], exogamous patri-moiety, each comprised of two agnatically related namesake groups ("sections"), are expressly recognized; namesake group members marry persons from the equivalent namesake group of the opposite moiety. In the remaining cases, only the namesake groups are socially codified; the marriage pattern, however, remains the same.

Hornborg (1988, 1993) has recently argued

"that Panoan marriage classes represent an accommodation to the contradictory status of FZ as both consanguine (according to the patrimoiety model) and affine (according to the Dravidian terminology) in strongly endogamous societies featuring dual organization. The Kariera-type marriage classes circumvent the requirements of consistent sociocentric dualism by recognizing the kin-affine dichotomy in alternate

⁸ Cf. Hornborg 1988:161-171. These populations include the Cashinahua (d'Ans 1975; Kensinger 1977), the Sharanahua (Suskind 1973; Torralba 1981), the Mayoruna (Fields and Merrifield 1980) and the Amahuaca (Dole 1979).

generations only. Such systems of alternating generations thus seem half-way between cognatic "alliance endogamy" and "unilineal descent" (1988:241).

While we would agree with Hornborg's conclusions regarding the intermediary character of these systems, the notions of "contradiction" or "cognitive inconsistency" (Hornborg 1993:101, 104) evoked here is something of a red herring, predicated upon an unwarranted conflation of, on the one hand, a dichotomy relating to group membership -- same group vs. different group --, and on the other hand, a discrimination pertaining to the regulation of marriage -- consanguinity/affinity (cf. also Viveiros de Castro, this volume). Panoan-speakers, like the Karia but unlike most Australian Aboriginal populations, define affinity in an egocentric fashion: namesake groups are not, as such, directly involved in the regulation of marriage. Thus, among Panoans, alliance precepts are typically phrased ego-centrally in terms of primary kin relations, and not in terms of section and/or moiety membership (alternative sociocentric phrasings may of course exist as well, e.g. among the Cashinahua [Kensinger 1984:227-232]).⁹ Moreover, with moieties being recognized in only some cases, it is doubtful as to whether panoan namesake units represent unilineal descent categories at all. Indeed Hornborg himself (1993:106) speaks of the "unilineal illusion", and suggests an alternative and equally satisfactory account of four-section structure, fully compatible with dravidianate terminology, in terms of an egocentric system of parallel affiliation incorporating a principle of alternate generation (*ibid.* p.104-5; see also Dumont [1966] who proposes a similar model for the Karia). In short, moieties among panoan-speakers -- as among the Karia --, are to be appreciated as a secondary, optional sociocentric recoding of what remains an essentially egocentric, dravidianate system.

Taking a quite different tack, we may observe that the most obvious feature of dravidianate four-section systems is a systematic and across-the-board emphasis on generational distinctions, concomitantly applied to both kin and affins. How such an overall arrangement of sharply discriminated generational positions relates to particular social or material conditions and/or to other, ceremonial or cosmological considerations, remains unclear. On the level of alliance behaviour however, the implications are fairly straightforward: sidedness in the absence of oblique marriages.

Now, a sex-linked bipartite marriage network without oblique marriages, is at once viri-sided and uxori-sided. Thus, the Panoan four-section system may be understood as a possible sociocentric recoding of the simultaneous presence of both viri- *and* uxori-sidedness, that is, a *dual-sided* or *reversible* marriage network structure. This pattern is found not only among Pano groups but also, for example, in the network of first marriages among the Makuna (*Figure 2*) who permit oblique marriages (ZD and WBD) for second wives only: if we eliminate the two such marriages that are recorded for the Makuna, *Figure 2* becomes dual-sided. In general, such a reversible network should be found in any population in which one mode of sidedness and same generation marriage are combined. Indeed, these three features -- viri-sidedness, uxori-sidedness and same generation marriage -- are interdependent: the presence of any two automatically implies the third.

This leads us to the prediction that lowland societies with sidedness and same-generation marriage will recognize the principle of alternating generations inherent in such dual-sided systems. This hypothesis seems to be born out by *Table 4* showing the 15

⁹ Shapiro (1979:49) makes a similar point regarding the Karia, who also express their marriage rule in terms of primary kin relations. For him, the lack of correspondance between moiety divisions and terminological consanguinity/affinity distinctions merely indicates that the former are not relevant for the determination of marriage choice: "the salient dichotomy in Karia is not own-moiety people / opposite-moiety people [...] but rather kin/affines, or -- more accurately -- those with whom one may not contract affinal relationships/those with whom one may do so" (*ibid.*).

populations in Hornborg's (1988) sample for which sidedness has been either verified or estimated as highly probable (see *supra*). These populations have been ordered vertically according whether they have a small or large proportion of oblique marriages (dual-sidedness vs. simple sidedness), and horizontally according to whether they have or do not have alternative generation name transmission, a clear indicator of the recognition of an alternating generation principle. All of the 9 cases with few or no oblique marriages have alternating two (or four) generation name inheritance, and all but one (83%) of the 6 societies without alternating two (or four) generation name inheritance have frequent oblique marriages.¹⁰

Table 4

	Alternating generation name inheritance	No alternating generation name inheritance	
Sidedness with few or no oblique marriages.	Suya X2 * Shavante X2 Karaja 2 Cashinahua 2 Mayoruna 2 Sharanahua 2 Amahuaca 2 Makuna 2 Cuiva +4	Yanomamo -	CODES: Alternating generation name inheritance: 2 FF-SS X2 MB-ZS with FZD marriage +4 Four generation cycle No alternating generation name inheritance: +3 Three generation cycle - Not mentioned
Sidedness with frequent oblique marriages.		Parintintin - Nambicuara - Sanuma - Trio - Mundurucu +3	* The Suyu have MB-ZS name transmission without FZD marriage, but use names in alternate generations (Hornborg 1988:80).

It should be stressed here that matrimonial "prescription" is extraordinarily weak in dual-sided systems of the Panoan or Kariera variety: they imply no particular types of cousin marriages other than those (first, second, third, etc., cousins) that are consistent with sidedness. Restricting marriage to the same generation is isomorphic to classificatory cousin marriage, of any and all types whatsoever. Thus, of 24 marriages in *Figure 1* for example (a dual-sided system), 1 is with a bilateral cross-cousin (FZD = MBD), 6 with FZD, 4 with MBD, 2 with MMBDD, one each with FMBSD, FFZSD, MFMBSD, FMMBSD, and 7 with non-kin.

Societies having dual-sided marriage networks entailing *purely* classificatory cross-cousin marriages are, of course, perfectly feasible (e.g. almost all Australian Aboriginal populations). However, the extent to which dual-sided societies, even single-sided societies, prohibiting first-cousin marriage and lacking some sort of sociocentric armature, actually

¹⁰ Oblique marriage refers here to oblique *blood* marriages, the absence/presence of which is not quite the same as the absence/presence of dual-sidedness as a property of the marriage network as a whole. Although oblique blood marriages play an important role in orienting the marriage networks towards either viri- or uxori-sidedness (cf. *Table 5 infra*), the absence of dual-sidedness does not necessarily imply the presence of oblique blood marriages. Thus for example, although very few oblique blood marriages occur among the Shavante and the Yanomamo, the marriage networks of these two populations are far from dual-sided (cf. *Table 3 supra*).

exist, is still an open question. The issues involved here are highlighted by Tjon Sie Fat's recent demonstration (this volume) that "Iroquois generational" terminologies -- a full-fledged Type-B crossness in which first (or first and second) cousins are merged with siblings and regarded as unmarriageable -- are theoretically side-compatible. It remains to be seen whether sidedness does indeed occur in the marriage networks of such systems (e.g. the Arawakan Mehinacu [Gregor 1977:277]). If it does, this would suggest that the distinctiveness of dravidianate consists not in the association of egocentric crossness and sidedness, but in the admission, under such conditions, of close kin marriage, absent from the "Iroquois generational" alliance model. This would be in agreement with Trautman's (1981:220) proposition that close cross-kin marriage is strongly favored in Dravidian systems. On the other hand, if sidedness is not found in "Iroquois generational" systems, this would imply that when close kin marriage is excluded, the divergence between Type-A (Dravidian) and Type-B (Iroquois) crossness calculi is no longer structurally significant: in these conditions, as Taylor (this volume) suggests, "formal" crossness gives way to a "sociological crossness" in which the consanguinity/affinity discrimination is disconnected from the geneological cross/parallel opposition. In this respect, marriage network data of "Dravidian generational" populations (Tapirapé, Kadiwéu, Warao, etc) would be equally demonstrative: are they sided or not?

Tjon Sie Fat's demonstration also raises a similar question regarding another feature absent from his "Iroquois generational" alliance model, namely oblique marriage. To what degree is a presumption of oblique marriage not, as Good (1980, this volume) seems to maintain, an inherent feature of dravidianate systems, notably as opposed to sociocentric side-compatible systems (e.g. of the Australian variety) in which oblique marriages are in principle excluded? Marriages into adjacent generations invariably bring to the fore the lack of consistency across generations that is the hallmark of Dravidian crossness. At the same time however, such unions orient the marriage network away from reversible sidedness towards either a viri-sided or a uxori-sided pattern (see *infra*). In doing so, we may suggest, they provide, along with discriminations founded upon relative age or geneological distance (Viveiros de Castro, this volume), the grounds for a variety of distinctly egocentric (and therefore more complex) systematic resolutions of this inconsistency.

Another, fairly different type of trajectory within dravidianate is that followed by Gê-speaking groups, many of whom have named moieties. However, in this case, it would seem that the sociocentric lineal principles thereby introduced are counteracted by a system of "crossed" name transmission. Names are typically passed from MB to ZS and from FZ to BD. As several authors have suggested (Melatti 1979; Lave 1979; Viveiros de Castro 1989; Lea 1992), the onomastic identifications that this entails may result in Crow and/or Omaha type terminological equations: for example, FZS being identified with F (Crow), MBD being identified with M (Omaha).¹¹ This naming system, when combined with FZD marriage, is congruent with alternate generation naming found in a variety of populations and indicative of dual-sidedness (cf. *Table 4 supra*). Moreover, when envisaged from the point of view of alliance, such a cross transmission of names is fully consistent with side organization. As Hornborg suggests (1988:236), the lines of matrilineally related males and patrilineally related females resulting from such a system can be seen as "structural 'shadows' of the system of parallel affiliation": "This structure [of name transmission] which in fact articulates cross-cousin marriage and parallel affiliation [we would speak of sidedness], is most

¹¹ The Pakaa-Nova also have a very Crow-like terminology. It should be noted in passing that the compatibility of sidedness and Crow-Omaha systems is consistent with views that see such systems as potentially corresponding to a "super-Aranda" type model (Lévi-Strauss 1968:xix; Héritier 1981:122; see also Tjon Sie Fat's [1990:223] ten-line bilateral model of the Samo case).

consistently codified in Dravidian kin terminologies [...]" (*ibid*). In this light, it is significant that, as *Figures 8 and 9* show, both Gê populations in our sample, the Shavante (Maybury-Lewis [1967]) and the Suyá (Seeger [1981]), have sided marriage networks.

Figure 8

Figure 9

A final example is provided by Tukano-speaking communities among whom exogamous unilineal descent groups are clearly present. Here, a strong (patri-)lineal principle results in a number of Iroquois-type terminological characteristics such as separate affinal terms, a confusion of consanguins with agnates, etc (Hornborg 1988: 172-184). This asymmetrical or unilateral tendency has the potential for the kind of non-associativity or societal inconsistency previously evoked in connection with Iroquois configurations. At the same time, however, Tukano-speakers introduce a tripartite division of matrimonial exchange units into agnatic kin, affines and co-affines (affines of affines), together with a relative avoidance of marriage between co-affinal groups, designated as "mother's [sister's] children" (cf. for example Ahrem 1981:137; Jackson 1977:87-89, 1983:88-123; Hugh-Jones 1979:76-106). This triadic structure in which co-affines are logically confused with kin, has the result, we suggest, of continually reorienting the marriage network in the direction of an overall viri-sidedness. While working against the establishment of exclusive relations of symmetrical alliance on one level, this tripartite discrimination acts to integrate the resultant dispersal of alliances into a higher-order bipartite patterning of the network as a whole. Here, sidedness, if it exists, is realized in accordance with a diametric "multi-bilateral" model implying reciprocal FZD marriage (cf. Viveiros de Castro et Fausto 1993:156): a preference for FZD over MBD has been reported for both the Bara (Jackson 1977:87-89) and the Barasana (Hugh-Jones 1979:85).¹²

In this way, local conditions may bring about a variety of modifications or additions to the basic dravidianate pattern: the presence of moieties, sections, unilineal descent groups, Crow, Omaha, Hawaiian or Iroquois terminological equations, etc. However, as the above examples suggest, such variations are, firstly, consistent with side organization (although this remains to be verified), and secondly, subordinate to an egocentric recoding of this sex-linked bipartite marriage pattern. In other words, combining sidedness and egocentric crossness, they remain distinctly dravidianate.

Oblique marriages and the lateralization of sidedness

A final point concerns oblique marriages. It would seem that one of the traits of Dravidian systems is the regular occurrence of oblique marriages (Good 1980, this volume). This is also the case in many dravidianate societies of lowland South America and, to varying

¹² Sidedness remains to be empirically demonstrated for Tukano groups other than the Makuna. Among the Bara and the Barasana for example, although there is no prohibition as such regarding marriage between lineages and/or longhouse communities certain of whose members are in a "mother's children" relationship, sisters' descendants ("mother's children") can not marry and *de facto* "mother's children" groups with whom marriages do not occur are in evidence. Here, the mechanics of sidedness are surely more complex than the "segmentary alliance" model proposed by Arhem (1981) for the Makuna. Specifically, they would seem to entail both the cumulative effects of a number of behavioural constraints touching upon the strategic resolution of rival marriage claims (Jackson 1977), as well as a series of terminological and other slippages between different levels of social organization over time.

degrees, in all of our sample marriage graphs (*Figures 2 through 10*). The possibilities met with among Amazonian groups in Hornborg's (1988) sample are: marriage with father's sister (FZ), with brother's daughter (BD), with sister's daughter (ZD), with brother's daughter's daughter (BDD), with mother's brother's daughter's daughter (MBDD) and with wife's brother's daughter (WBD). This obliquity can be the source of considerable gymnastics if one is trying to incorporate such marriages into a "mechanical" type of alliance model (see e.g. Rivière 1969). Such marriages pose of course much less of a problem in the perspective adopted here: they remain clearly subordinate to an overall pattern of sidedness. However, the question remains: if oblique marriages are not to be understood as a basis for the elaboration of especial alliance models, of what significance are they?

As has already been mentioned, in cases where no oblique marriages occur, the marriage network can be appreciated equally as uxori-sided or viri-sided. From this point of view, sidedness, in and of itself, gives preeminence neither to the male line nor to the female line. Rather, for a particular population at any given point in time, these lines may be stressed equally or one of them may dominate the other. Indeed, as we have repeatedly emphasized, matrimonial sidedness does not constitute a timeless scheme, but instead, a global ordering process dependent on existing marriage links. It is thus perfectly possible for a marriage network to display sidedness of one sort, say viri-sidedness, up to a certain generation, and then, without ceasing to be a sex-linked bipartite ordering, to give way to a dual-sided or uxori-sided pattern. Side structure, then, incorporates a further order of indeterminacy, as defined by the virtual simultaneity of these various sided configurations: viri-, uxori- and dual-sidedness are not so much separate organizational principles as they are different actualizations of a same basic *ambilateral* form. The (temporary) resolution of this indeterminacy into one of these three stable "solutions" is largely dependent upon local conditions, analytically exterior to sidedness itself. What might these conditions be?

Given the fact that a situation of reversible or dual sidedness, in which equivalent stress is placed on male and on female lines, corresponds to a condition of same-generation marriage, it seems reasonable to suppose that the skewing of sidedness in favor of one or the other of these two lines of parallel affiliation, is closely related to the recurrent presence of oblique marriages. There is a simple structural basis for this idea. Oblique marriages into an adjacent generation can be distinguished formally by the fact that, unlike same generation marriages, they are not compatible with both viri- and uxori-sidedness, but only with either one or the other. Thus, marriages with ZD, BDD or WBD (or with FFZD, MBSD or MBW) are consistent with viri-sidedness but not with uxori-sidedness, whereas marriages with FZ, BD or MBDD (or with MMBD, MMBDDD or FZDD) are consistent with uxori-sidedness but not with viri-sidedness.

Building on Moore's ideas (1963) regarding the possible connection between oblique marriage and same-sex succession on the one hand, and unilateral cross-cousin marriage on the other, Hornborg has stressed the role of oblique marriage in "disharmonic" systems in which residence and succession are organized along different same-sex lines:

"In order for male Ego to stay together with his patrilineal kin in an uxorilocal society, he should marry his classificatory M, Z or ZD. In order for female Ego to remain with her matrilineal kin in a virilocal society, she should marry her classificatory F, B or BS (i.e. male Ego must marry his classificatory FZ, Z or D). It is not difficult to see that both systems will tend to encourage oblique marriage: ZD marriage in the former, and FZ marriage in the latter." (Hornborg 1988:255).

Thus, ZD marriage, the most common form of oblique marriage in South America, may be appreciated as "a likely strategy where there is a conflict between male patrilineal loyalties and requirements of uxorilocal residence" (Hornborg 1988:261): "out of 18 societies in which marriages with ZD occur, at least 16 practice general or sporadic uxorilocality" (*ibid*).

Taking into consideration all reported types of oblique marriage, we have ordered the societies concerned according to whether the oblique marriages occurring among them are biased towards uxori-sidedness, viri-sidedness or both (*Table 5*). The results, although largely in keeping with Hornborg's wider perspective, suggest that it is not so much conflictual conditions associated with disharmonic regimes (e.g. where general or sporadic uxorilocality prevails) that is important, as it is the presence/absence of comprehensive uxorilocality, and hence the impossibility/possibility of some sort of virilocal organization. Thus, either uxori-biased oblique marriages or a combination of uxori-biased and viri-biased oblique marriages are found in strictly uxorilocal societies, whereas in those groups where virilocality, in some form or another, is present, only viri-biased oblique marriages occur.¹³ As suggested by a number of cases in *Table 5*, oblique marriage may play an important role in the consolidation of individual power bases and the emergence of local leaders. Specifically, oblique marriages may be seen as strategic "bids" made by persons in positions of power in such a way as to support the same-sex line of affiliation consistent with their own residential groupings: either the male line (marriage with ZD, BDD, or WBD) or the female line (marriage with FZ, BD or MBDD). From this point of view, it may be more accurate to see such arrangements as directed towards the realization of close-kin marriages that additionally, break symmetry through the violation of one but not the other mode of sidedness. The aggregate consequence of these initiatives is to modulate the marriage network as a whole towards either viri- or uxori-sidedness. This tendency may be presumed to be self-reinforcing: an inflection of the marriage network away from dual-sidedness -- inflection that can derive from other sources as well, cf. note 11 *supra* -- may in turn favor the realization of further viri- or uxori-biased oblique unions. Such an understanding of oblique marriage is of course congruent with the speculations offered in the preceding section regarding the importance of such marriages within the context of dravidianate systems, that is, those entailing egocentric rather than (Australian-like) sociocentric sidedness.

¹³ The significant exception to this pattern are the Waiwai (Hornborg 1988:141 citing Fock 1963:134, 202); the others can be more or less disregarded: the anomalous unions reported for the Sanuma are considered by their ethnographers to be "rather improper" (Ramos and Albert 1977:73,76), and Dole (1979:31-33) treats the exceptional marriages among the Amahuacca as irregularities resulting from demographic stress.

Table 5
Oblique Marriage (even if rare) and Postmarital Residence

	<u>A: uxori-bias</u> FZ, BD and/or MBDD marriage	Both A and B marriage	<u>B: viri-bias</u> ZD BDD and/or WBD marriage
Strictly uxorilocal:	Bororo: BD, FZ (through male ceremonial friend) Kraho: BD (rare) Sherente: MBDD (chiefs only)	Caingang: FZ, ZD Karaja: BD (6%), ZD (8%) Machinguenga: FZ, ZD Warao: FZ, ZD	Sanuma: ZD
Partly virilocal or bride-service:		Amahuaca: FZ, ZD Waiwai: FZ, ZD	Achuar: ZD (rare) Barama River: ZD Barasana: ZD (rare) Karinya: ZD? Kuikuru: ZD Makuna: ZD, WBD Mayoruna: BDD (rare) Mundurucu: ZD Nambicuara: ZD Pemon: ZD Pioria: ZD Parintintin: ZD Trio: ZD Tupinamba: ZD

Notes

Karaja: Pétesch (1992:379) gives rates of 13% for eBD marriage, 7% for ZD marriage and 2% for MyZ marriage.

Achuar: Oblique marriage is exceptional. Taylor (1982:12) notes ZD marriage as a "semi-incestuous" endogamous extreme only among great-men. On the **A** side, however, such men may also marry classificatory daughters or the widow of a classificatory father. The latter are not considered here since the actual genealogical links are not stated.

Barasana: Barasana cases of true ZD marriage seem to be "justified by the need to complete an exchange when age and sibling-groups structure prevent a sister exchange" (C. Hugh-Jones 1977:102; cited in Hornborg 1988:178).

Makuna: Secondary marriages only.

Mayoruna: "Several men have wives both of their own generation as well as others of the grandchild generation" (Fields and Merrifield 1980:2-3). "An adult Mayoruna may ask his [...] (MB) or [...] (BZ,BD) for his or her daughter, implying that BDD would be one of the eligible kintypes of his second descending generation" (Hornborg 1988:166).

Pioria: "Incorrect," occasional, secondary marriages. "[T]he reason why spouses are sought in the first descending generation is that by middle age, the sisters of Ego's [brothers-in-law] are all married. Instead of exchanging children, one of [them] marries the other's daughter [...]. The compatibility of ZD marriage with a symmetric brother-in-law relationship has been similarly demonstrated among the Nambikuara" (Hornborg 1988:202, citing first Kaplan 1972:569, 1975:133, then Levi-Strauss).

Tupinamba: "Uxorilocality was the explicit rule among the Tupinamba, but by marrying his ZD a man could avoid having to adopt the subordinate role of son-in-law in the household of his WF [...]. [A] major rationale [of ZD marriage] may have been to legitimize virilocal residence in a strongly patrilineal [but uxorilocal] society" (Hornborg 1988:156).

Conclusion

Our goal has been to demonstrate the relevance of a particular approach to the analysis of alliance systems, in which primary importance is given to real matrimonial connexions and structure is conceived above all as an emergent patterning of the marriage network as a whole. Specifically, we have tried to show how the systematic examination of actual marriage ties can open the way to a fresh empirical study of dual organization. We have also proposed a network-based model of dravidianate kinship: "multicentric" sidedness coupled with an egocentric crossness calculus. This, we suggest, is both a dominant structural type and a likely historical prototype for lowland South America: amazonian alliance systems can be seen as a family of transformations building off of this core connexion between a certain behavioural regularity and a particular classificatory principle. Two levels of organization are involved here. The one concerns the considerable variability of detail that distinguishes these systems from each other: the presence or not of named moieties and/or namesake sections, of unilineal descent groups, of varying types of marriage preferences and prohibitions, of Crow, Omaha, Hawaiian or Iroquois terminological characteristics, etc. The other pertains to the underlying formal feature to which this variability remains subordinated, namely, a sex-linked bipartition of the marriage network encoded in an egocentric crossness.

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